

6BD11

Dual Triode—Sharp-Cutoff Pentode

Dual Triode Has High-Mu & Medium-Mu Units

DUODECAR TYPE

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC)	6.3 ± 0.6 volts
Current at 6.3 volts	1.050 amp

Maximum Heater Cathode Voltage:

Heater negative with respect to cathode:	
Peak	200 volts
Heater positive with respect to cathode:	
Peak	200 volts
DC component	100 volts

Direct Interelectrode Capacitances: (Without external shield)

Triode Unit No.1

Grid to plate	1.9	pf
Input: G_{T1} to (K_{T1} , $K_{T2} + IS$, $K_p + G_{3p} + IS$, H)	3.0	pf
Output: P_{T1} to (K_{T1} , $K_{T2} + IS$, $K_p + G_{3p} + IS$, H)	2.2	pf

Triode Unit No.2

Grid to plate.	3.6	pf
Input: G_{T2} to ($K_{T2} + IS$, $K_p + G_{3p} + IS$, H)	2.4	pf
Output: P_{T2} to ($K_{T2} + IS$, $K_p + G_{3p} + IS$, H)	3.8	pf

Pentode Unit

Grid No.1 to plate	0.13	pf
Input: G_{1p} to ($K_{T2} + IS$, $K_p + G_{3p} + IS$, G_{2p} , H)	11.0	pf
Output: P_p to ($K_{T2} + IS$, $K_p + G_{3p} + IS$, G_{2p} , H)	4.6	pf
Pentode plate to plate of triode No.2.	0.045 max.	pf
Plate of triode No.1 to plate of triode No.2.	0.075 max.	pf

Characteristics, Class A₁ Amplifier:

	Triode Units	No.1	No.2
Plate Supply Voltage		200	200 volts
Grid Voltage		-2	- volts
Cathode Resistor		-	220 ohms
Amplification Factor		68	41
Plate Resistance (Approx.)		12400	9400 ohms
Transconductance		5500	4400 μ mhos
Plate Current.		7	9.2 ma
Grid Voltage for plate $\mu_a = 100$		-5.5	-6.5 volts

Pentode Unit

Plate Supply Voltage	35	135	volts
Grid-No.2 Supply Voltage	135	135	volts
Grid-No.1 Voltage.	0 ^a	-	volts
Cathode Resistor	-	100	ohms
Plate Resistance (Approx.)	-	45000	ohms
Transconductance	-	10400	μmhos
Plate Current.	34 ^b	17	ma
Grid-No.2 Current.	13 ^b	4	ma
Grid-No.1 Voltage (Approx.) for plate $\mu_a = 100$	-	-6	volts



RADIO CORPORATION OF AMERICA
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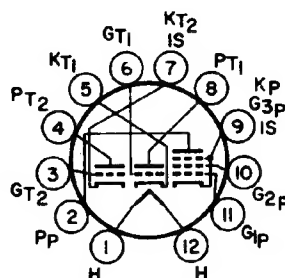
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Mechanical:

Operating Position Any
 Types of Cathodes. Coated Unipotential
 Maximum Overall Length 2.375"
 Seated Length. 1.750" to 2.000"
 Diameter 1.062" to 1.188"
 Dimensional Outline (JEDEC 9-58) See *General Section*
 Bulb T9
 Base Small-Button Duodecar 12-Pin (JEDEC No.E12-70)
 Basing Designation for BOTTOM VIEW 12DP

Pin 1-Heater
 Pin 2-Pentode Plate
 Pin 3-Grid of Triode Unit No.2
 Pin 4-Plate of Triode Unit No.2
 Pin 5-Cathode of Triode Unit No.1
 Pin 6-Grid of Triode Unit No.1
 Pin 7-Cathode of Triode Unit No.2,
 Internal Shield
 Pin 8-Plate of Triode Unit No.1
 Pin 9-Pentode Cathode, Pentode
 Grid No.3, Internal Shield
 Pin 10-Pentode Grid No.2
 Pin 11-Pentode Grid No.1
 Pin 12-Heater



AMPLIFIER — Class A_i

Maximum Ratings, Design-Maximum Values:

	Triode Units No.1	No.2
Plate Voltage.	330	330 volts
Grid (Control-Grid) Voltage:		
Positive-bias value.	0	0 volts
Plate Dissipation.	1.5	2 watts

Pentode Unit

Plate Voltage.	330 volts
Grid-No.2 (Screen-Grid) Supply Voltage	330 volts
Grid-No.2 Voltage.	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section
Grid-No.1 (Control-Grid) Voltage:	
Positive-bias value.	0 volts
Grid-No.2 Input:	
For grid-No.2 voltages up to 165 volts	1.1 watts
For grid-No.2 voltages between 165 and 330 volts	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section
Plate Dissipation.	4 watts

Maximum Circuit Values: (Values are for Each Unit)

	Triode Units	Pentode Unit
Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.5	1 megohm
For cathode-bias operation	1	1 megohm

^a Applied for short interval (2 sec. max.) so as not to damage tube.

^b value measured by recurrent waveform such that maximum ratings of tube are not exceeded.

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